

CLAIMS

1. A cooling structure for a plasma lighting system including a fan housing having at least two discharge ports having different discharge flow rates to cool heat generation components in a case by introducing external air in the case.

2. The structure of claim 1, wherein prolonged ducts for guiding the discharge air to each heat generating component are provided at the discharge ports of the fan housing.

3. The structure of claim 2, wherein at least one prolonged duct is composed of a distribution duct having at least two discharge ports in order to intensively cool at least two specific heat generating components.

4. The structure of claim 3, wherein the discharge port connected to the distribution duct has discharge flow rate larger than the other discharge port of the fan housing.

5. The structure of claim 3, wherein the discharge ports of the distribution duct are formed to have different discharge flow rates each other.

6. The structure of claim 1, wherein in case that a microwave

generator and a bulb motor are located at one side in the case and a high voltage generator is located at the other side thereof, the discharge port toward the microwave generator and the bulb motor has discharge flow rate larger than the other discharge port toward the high voltage generator.

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7. The structure of claim 6, wherein a distribution duct composed of two discharge ports is connected to the discharge port toward the microwave generator and the bulb motor in order intensively to cool the microwave generator and the bulb motor, respectively.

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8. The structure of claim 1, wherein the case is provided with the fan housing at the rear surface thereof to introduce external air and provided with a case discharge port at the frontal surface thereof to discharge air which cooled heat generating components.

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9. The structure of claim 8, wherein the case discharge port is provided with a discharge guide member formed with a round shape at the case discharge port.

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10. The structure of claim 1, wherein the case is formed with a double cylinder structure having an inner case and an outer case, and external air circulating by the fan housing is introduced into the rear surface of the inner case, passes the inside of the inner case, flows to the inside of the outer case,

and is discharged to the rear surface discharge port of the outer case.

11. The structure of claim 1, wherein a plurality of discharge ducts for discharging air which passed the inside of the case are provided at an outer
5 surface of the case by being connected to the case.

12. The structure of claim 11, wherein the case includes a first discharge port connected to a frontal side of the discharge duct.

10 13. The structure of claim 12, wherein the case includes a second discharge port connected to a middle portion of the discharge duct.

14. The structure of claim 11, wherein the discharge duct has a first discharge port at the rear portion thereof and the second discharge port at the
15 lateral portion thereof.

15. The structure of claim 11, wherein the case has a plurality of radiation fins protruded toward the inner side of the discharge duct.

20 16. The structure of claim 11, wherein a plurality of radiation fins are formed at the outer surface of the case.

17. A cooling structure for a plasma lighting system comprising:

a fan housing corresponding to a passage where external air is introduced in a case to cool heat generating components in the case and having at least two discharge ports; and

a distribution duct prolonged from said one discharge port of the fan housing and having a plurality of discharge ports in order to intensively cool at least two heat generating components, respectively.

18. The structure of claim 17, wherein the distribution duct is composed of a main duct having great discharge flow rate and a diverged duct divided from the main duct.

19. The structure of claim 18, wherein a microwave generator and a bulb motor located around the microwave generator for rotating a bulb are provided in the case, and the main duct is formed toward the microwave generator and the diverged duct is formed toward the bulb motor.

20. A cooling structure for a plasma lighting system comprising:
a case in which inner components are mounted; and
a plurality of discharge ducts at an outer surface of the case for discharging air which passed inside of the case to outside of the case;

wherein the case includes a first discharge port connected to a frontal portion of the discharge duct and a second discharge port connected to a middle portion of the discharge duct.

21. The structure of claim 20, wherein the discharge duct has a first discharge port at the rear side thereof and a second discharge port at one side thereof.

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22. A cooling structure for a plasma lighting system comprising:
a case in which inner components are mounted; and
a plurality of outlet ducts at an outer surface of the case for discharging air which passed inside of the case;

10 wherein the case includes a plurality of radiation fins protruded to inside of the discharge duct.

23. A cooling structure for a plasma lighting system comprising:
a case in which all kinds of components are mounted; and
15 a plurality of outlet ducts at an outer surface of the case for discharging air which passed inside of the case; and

a plurality of radiation fins formed at the outer surface of the case for radiating inner heat of the case.

20 24. The structure of claim 23, wherein the discharge ducts are uniformly located at the outer circumference surface of the case with predetermined intervals, and the radiation fins are formed at a side where the discharge ducts are not formed.